

## PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF LED COUNTDOWN PEDESTRIAN SIGNAL HEADS, APS PUSHBUTTONS, AND SIGNS AT THE INTERSECTION OF US 1 (WASHINGTON BLVD) AND ROWANBERRY DR/ PINE AVE IN HOWARD COUNTY. US 1 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

## INTERSECTION OPERATION

THIS INTERSECTION CURRENTLY OPERATES IN A NEMA SIX-PHASE FULL-TRAFFIC-ACTUATED MODE WITH EXCLUSIVE-PERMISSIVE LEFT TURN PHASES FOR NORTHBOUND AND SOUTHBOUND US 1 AND A CONCURRENT PEDESTRIAN PHASE TO CROSS ROWANBERRY DRIVE.

## CONTROLLER REQUIREMENTS

THE EXISTING FULL-TRAFFIC-ACTUATED EIGHT PHASE TRAFFIC SIGNAL CONTROLLER HOUSED IN A BASE MOUNTED CABINET WILL BE USED. AN APS CONTROL UNIT WILL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY SHA.

## SPECIAL NOTE

APS WILL FUNCTION AS FOLLOWS:

FOR ROWANBERRY DRIVE:

A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE " WAIT TO CROSS ROWANBERRY DRIVE AT WASHINGTON BOULEVARD."

B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTACT PERSONS FOR DISTRICT #7 ARE AS FOLLOWS:

MR. JOHN CONCANNON  
ASSISTANT DISTRICT ENGINEER-TRAFFIC  
PHONE: (301)624-8140

MS. ANDREA ABEND  
UTILITY ENGINEER  
PHONE: (301)624-8115

MR. RAYMOND JOHNSON  
ASSISTANT DISTRICT ENGINEER-MAINTENANCE  
PHONE: (301)624-8105

CONTACT PERSONS FOR OOTS ARE AS FOLLOWS:

MR. RICHARD L. DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS  
DIVISION  
PHONE: (410)787-7630

MR. ROBERT SNYDER  
ASSISTANT DIVISION CHIEF  
TRAFFIC OPERATIONS  
(410)787-7630

MR. ED RODENHIZER  
CHIEF, SIGNAL OPERATIONS  
(410)787-7650

MR. EUGENE BAILEY  
CHIEF, SIGN OPERATIONS  
(410)787-7676

## EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
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## EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
2003	TEST PIT EXCAVATION	CY	2
5001	REMOVAL OF EXISTING PAVEMENT LINE MARKINGS	LF	50
5006	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS	LF	150
5007	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS	LF	30
8001	CONCRETE FOR SIGNAL STRUCTURE	CY	0.5
8002	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON	EA	2
8003	BREAKAWAY PEDESTRIAN POLE - ANY SIZE	EA	2
8004	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD	EA	2
8005	REMOVE AND DISPOSE PER ASSIGNMENT	EA	1
8006	PEDESTRIAN EDUCATION SIGN -R10-3(1) (9"x15")	SF	2
8007	NO. 6 STRANDED BARE COPPER GROUND WIRE	LF	10
8008	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	10
8012	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE	EA	2
8013	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	320
8014	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	345
8016	APS CENTRAL CONTROL UNIT	EA	1

## EQUIPMENT LIST "C"

C. EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND RETURNED TO THE SHA.

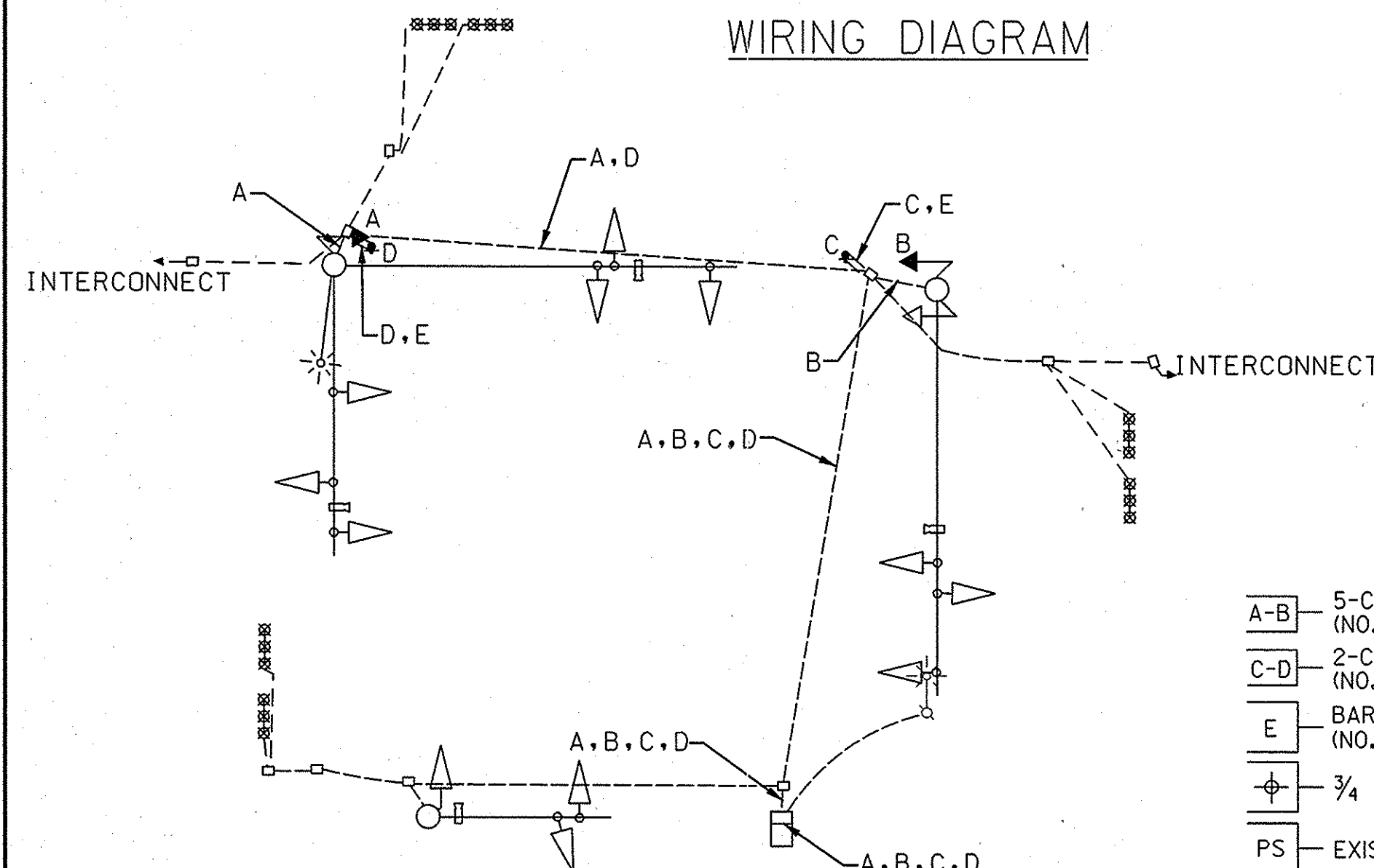
ALL MATERIALS AND EQUIPMENT REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

## GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
3. ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
4. UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
5. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
6. ACCESSIBLE PEDESTRIAN CONTROL EQUIPMENT SHALL BE DELIVERED TO THE SHA SIGNAL SHOP FOR TESTING AND PROGRAMMING PRIOR TO INSTALLATION. CONTACT MR. EDWARD RODENHIZER AT 410-787-7652 TO COORDINATE.
7. LOCATION OF ACCESSIBLE PEDESTRIAN PUSHBUTTONS MUST MEET THE LOCATION REQUIREMENTS OF THE MUTCD, SECTION 4E-09 AND FIGURE 4E-2 AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNAL: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL THE CONFLICT HAS BEEN RESOLVED. IF NEEDED, A DESIGN WAIVER SHALL BE OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.

## GENERAL NOTES CONTINUED

8. INSTALL PVC SLEEVE FOR SIGNS IN SIDEWALK AREAS.
9. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR FROM 60"x60" LEVEL LANDING AREA. A LEVEL LANDING AREA IS AN AREA WITH A CROSS SLOPE OF LESS THAN 2%.
10. PUSHBUTTON IS TO BE LOCATED SO THAT A PEDESTRIAN IN A WHEELCHAIR LOCATED ON THE LEVEL LANDING AREA, DOES NOT HAVE TO REACH MORE THAN 18"
11. THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
12. FOR LOCATION AND MD STANDARD OF SIDEWALK RAMPS REFER TO THE ROADWAY PLANS.
13. ALL SIGNAL WORK SHALL BE COORDINATED WITH ROADWAY PLANS. SIGNAL EQUIPMENT SHALL BE INSTALLED PRIOR TO SIDEWALK/RAMP IMPROVEMENTS.
14. PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.



## WIRING KEY

A-B	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
C-D	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
E	BARE COPPER STRANDED GROUND WIRE (NO. 6 A.W.G.)
G	3/4 IN. x 10 FT. GROUND ROD
PS	EXISTING ELECTRICAL SERVICE

**SHA** STATE OF MARYLAND  
DEPARTMENT OF TRANSPORTATION  
STATE HIGHWAY ADMINISTRATION  
OFFICE OF TRAFFIC & SAFETY  
TRAFFIC ENGINEERING DESIGN DIVISION  
**US 1 (WASHINGTON BLVD) AND  
ROWANBERRY DR/PINE AVE**  
ELK RIDGE, MD

## GENERAL INFORMATION SHEET

SCALE NONE	DATE 4/2008	CONTRACT NO. AX3755133
DESIGNED BY MLH	COUNTY HOWARD	
DRAWN BY MLH	LOGMILE 13010009.03	
CHECKED BY DAE	TIMS NO. 1933	
FAP NO.	TOD NO.	
TS NO. 3939-A-GI	DRAWING SG-02 OF 02	SHEET NO. 28 OF 30

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& KAHL, LLP  
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PLOTTED: SDATETIMES  
FILE: SP1ES